

Delos Living LLC

RF TEST REPORT

Report Type:

FCC Part 15.249 RF report

Model:

WA280

REPORT NUMBER:

230800860SHA-002

ISSUE DATE:

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DOCUMENT CONTROL NUMBER:

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Manufacturer Site: SHENZHEN DINGXIN TECHNOLOGY CO., LTD
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Product Name: Air purifier

Type/Model: WA280

FCC ID: 2BC06-WA280

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2023): Radio Frequency Devices (Subpart C)

ANSI C63.10 (2020): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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TEST REPORT**Revision History**

Report No.	Version	Description	Issued Date
230800860SHA-002	Rev. 01	Initial issue of report	August 19, 2024

TEST REPORT**Measurement result summary**

TEST ITEM	FCC REFERENCE	RESULT
Equivalent Isotropic Radiated Power	15.255(c)	Pass
Peak Conducted Output Power	15.255(c)	Pass
Unwanted Emissions	15.255(d)&15.209	Pass
Power line conducted emission	15.207(a)	Pass
Assigned bandwidth (20dB bandwidth)	15.215(c)	Pass
Frequency Stability	15.255(f)	Pass
Antenna requirement	15.203	Pass

Notes: 1: NA =Not Applicable

TEST REPORT**1 GENERAL INFORMATION****1.1 Description of Equipment Under Test (EUT)**

Product name:	Air purifier
Type/Model/PMN/HVIN:	WA280
Description of EUT:	The EUT is Air purifier, it supports Thread and 60G Radar functions, there is only one model. we test them and list the worst results in this report.
Rating:	DC 12V, 15W Input: 120VAC, 60Hz 1.5A Output: Type-C 5.0V ==3.0A, 9.0V ==2.2A, 12.0V ==1.7A 20W max
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	V1.0.5
Hardware Version:	V1.2
Sample Identification No.:	0231226-05-001(for radiation sample), 0231226-05-002(for conduction sample)
Sample received date:	August 25, 2023
Date of test:	August 25, 2023 ~ November 20, 2023

1.2 Technical Specification

Frequency Range:	57000MHz ~ 62000MHz
Type of Modulation:	FMCW
Channel Number:	1
Antenna Information:	Plate patch antenna

TEST REPORT**1.3 Description of Test Facility**

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252
	NVLAP Accreditation Lab NVLAP LAB CODE: 200849-0
	A2LA Accreditation Lab Certificate Number: 3309.02

TEST REPORT**2 TEST SPECIFICATIONS****2.1 Standards or specification**

47CFR Part 15 (2023)
ANSI C63.10 (2020)
KDB 364244 DO1 Meas 15.255 Radars V01

2.2 Mode of operation during the test

The channel was tested as representatives.

Frequency Band (MHz)				57000 ~ 62000			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	59150	-	-	-	-	-	-

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	ESxS-K1	R&S	V2.1.0
Radiated emission	ES-K1	R&S	V1.71

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
-	-	-	-

2.5 Test environment condition:

Test items	Temperature	Humidity
Equivalent Isotropic Radiated Power	22°C	55% RH
Peak Conducted Output Power		
Emission outside the frequency band		

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Occupied bandwidth		
Radiated Emissions in restricted frequency bands		
Power line conducted emission	21°C	52% RH

TEST REPORT
2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESR7	EC 6194	2024-02-08
<input checked="" type="checkbox"/>	A.M.N.	R&S	ESH2-Z5	EC 3119	2024-11-19
<input type="checkbox"/>	A.M.N.	R&S	ENV4200	EC 3558	2024-06-05
<input checked="" type="checkbox"/>	Attenuator	Hua Xiang	Ts5-10db-6g	EC 6194-1	2023-12-07
<input checked="" type="checkbox"/>	Shielded room	Zhongyu	-	EC 2838	2024-01-11
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESIB 26	EC 3045	2024-08-22
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESR	EC6501	2024-09-24
<input checked="" type="checkbox"/>	PXA Signal Analyzer	Keysight	N9030A	EC 5338	2024-03-05
<input checked="" type="checkbox"/>	Bilog Antenna	TESEQ	CBL 6112B	EC 6411	2024-09-12
<input type="checkbox"/>	Pre-amplifier	R&S	AFS42-00101800-25-S-42	EC 5262	2024-06-15
<input checked="" type="checkbox"/>	Pre-amplifier	Tonscend	tap01018050	EC 6432-1	2023-12-07
<input checked="" type="checkbox"/>	Horn antenna	Tonscend	bha9120d	EC 6432-2	2024-02-15
<input checked="" type="checkbox"/>	Horn antenna	ETS	3116c	EC 5955	2024-06-16
<input checked="" type="checkbox"/>	WW wave antenna (40-60G)	HengDa	M19RH	EC 6529-1	2024-03-09
<input checked="" type="checkbox"/>	Mixer (40-60G)	VDi		EC 6529-2	2024-03-05
<input checked="" type="checkbox"/>	WW wave antenna (60-90G)	HengDa	M12RH	EC 6382-1	2024-03-14
<input checked="" type="checkbox"/>	Mixer (60-90G)	VDi		EC 6382-2	2024-03-05
<input checked="" type="checkbox"/>	WW wave antenna (90-140G)	HengDa	M15RH	EC 6383-1	2024-03-05
<input checked="" type="checkbox"/>	Mixer (90-140G)	VDi		EC 6383-2	2024-03-05
<input checked="" type="checkbox"/>	WW wave antenna (140-220G)	HengDa	M5RH	EC 6384	2024-03-27
<input checked="" type="checkbox"/>	Mixer (140-220G)	Keysight		EC 6384-1	2024-03-05
<input checked="" type="checkbox"/>	Semi-anechoic chamber	Albatross project	-	EC 3048	2024-07-08
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Therom-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3783	2024-03-24
<input checked="" type="checkbox"/>	Pressure meter	YM3	Shanghai Mengde	EC 3320	2024-08-16

TEST REPORT**2.7 Measurement uncertainty**

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Measurement uncertainty
Maximum peak output power	± 0.74dB
Radiated Emissions in restricted frequency bands below 1GHz	± 4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	± 5.02dB
Emission outside the frequency band	± 2.89dB

TEST REPORT

3 Equivalent Isotropic Radiated Power & Peak Conducted Output Power

Test result: **Pass**

3.1 Limit

Within the 57–71 GHz band, emission levels shall not exceed the following equivalent isotropically radiated power(EIRP):

(1) Products other than fixed field disturbance sensors and short-range devices for interactive motion sensing shall comply with one of the following emission limits, as measured during the transmit interval:

- (i) The average power of any emission shall not exceed 40 dBm and the peak power of any emission shall not exceed 43 dBm; or
- (ii) For fixed point-to-point transmitters located outdoors, the average power of any emission shall not exceed 82 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51 dBi. The peak power of any emission shall not exceed 85 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51dBi.

(A) The provisions in this paragraph (c) for reducing transmit power based on antenna gain shall not require that the power levels be reduced below the limits specified in paragraph (c)(1)(i) of this section.

(B) The provisions of § 15.204(c)(2) and (4) that permit the use of different antennas of the same type and of equal or less directional gain do not apply to intentional radiator systems operating under this provision. In lieu thereof, intentional radiator systems shall be certified using the specific antenna(s) with which the system will be marketed and operated. Compliance testing shall be performed using the highest gain and the lowest gain antennas for which certification is sought and with the intentional radiator operated at its maximum available output power level. The responsible party, as defined in § 2.909 of this chapter, shall supply a list of acceptable antennas with the application for certification.

(2) For fixed field disturbance sensors that occupy 500 MHz or less of bandwidth and that are contained wholly within the frequency band 61.0–61.5 GHz, the average power of any emission, measured during the transmit interval, shall not exceed 40 dBm, and the peak power of any emission shall not exceed 43 dBm. In addition, the average power of any emission outside of the 61.0–61.5 GHz band, measured during the transmit interval, but still within the 57–71GHz band, shall not exceed 10 dBm, and the peak power of any emission shall not exceed 13 dBm.

(3) For fixed field disturbance sensors other than those operating under the provisions of paragraph (c)(2) of this section, and short-range devices for interactive motion sensing, the peak transmitter conducted output power shall not exceed –10 dBm and the peak EIRP level shall not exceed 10 dBm.

(4) The peak power shall be measured with an RF detector that has a detection bandwidth that encompasses the 57–71 GHz band and has a video bandwidth of at least 10 MHz. The average emission levels shall be measured over the actual time period during which transmission occurs.

3.2 Measurement Procedure

For Radiated emission above 1000MHz:

- a) The measurements were performed at 3m test site.
- b) The EUT is placed on a non-conductive table is 1.6 meter above test site ground plane.
- c) The measurement procedure described in ANSI C63.10-2013 Section 9.9 was followed, to find

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maximum signal.

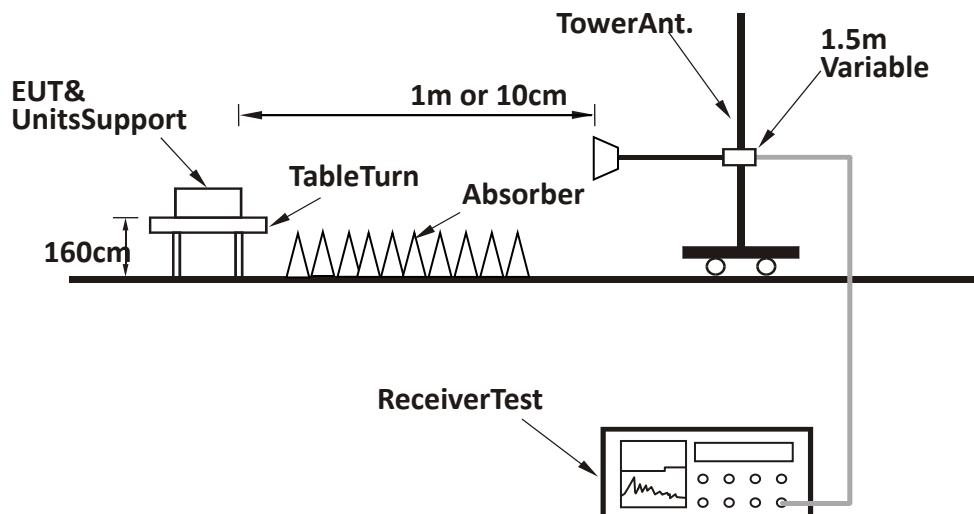
- d) The average and peak voltages was recorded from the DSO.
- e) Replace the EUT with mm-wave source to the RF input port of the instrumentation system.
- f) The mm-wave source is unmodulated.
- g) Adjust the amplitude of the mm-wave source such that the DSO indicates a voltage equal to the peak voltage recorded in step 4).
- h) Without changing any settings, replace the DSO with the mm-wave power meter.
- i) Measure and note the power.

Note:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 3 x RBW (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
3. All modes of operation were investigated and the worst-case emissions are reported

3.3 Test Configuration

For Radiated emission above 40GHz:



TEST REPORT
3.4 Test Results of Radiated Emissions
Peak Power(e.i.r.p)

Frequency (GHz)	P (dBm)	G (dBi)	E (dB μ V/m)	d- Meas (m)	Desensitization factor (dB)	EIRP (dBm)	Limit (dBm)
58.692	-44.94	23.31	104.439	1	0.06	-0.261	10.0

Note.

1. Sample calculation.

$$E = 126.8 - 20\log(\lambda) + P - G$$

where

E is the field strength of the emission at the measurement distance, in dB μ V/m

P is the power measured at the output of the test antenna, in dBm

λ is the wavelength of the emission under investigation [300/fMHz], in m

G is the gain of the test antenna, in dBi

$$EIRP = E_{Meas} + 20\log(d_{Meas}) - 104.7 + \text{Desensitization factor}$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dB μ V/m

d_{Meas} is the measurement distance, in m

FMCW desensitization factor = $-20 * \log(\alpha) = 0.06$ dB

$$\alpha = \frac{1}{\sqrt[4]{1 + \left(\frac{2\ln(2)}{\pi}\right)^2 \left(\frac{F_s}{T_s B^2}\right)^2}}$$

F_s = Sweep width = 3688.6MHz

T_s = Sweep time = 96 μ s

B = 3 dB IF bandwidth = 10MHz

Peak Conducted Output Power:

Frequency (GHz)	ERIP (dBm)	EUT Antenna Gain(dBi)	Conducted Output Power(dBm)	Limit (dBm)
58.692	-0.261	10	-10.261	-10.0

Note. Calculate the conducted output power (in watts) from the EIRP using Equation:

$$P_{cond} = EIRP_{Linear} / G_{EUT}$$

Where

P_{cond} is the conducted output power, in W

$EIRP_{Linear}$ is the equivalent isotropically radiated power, in W

G_{EUT} is numeric gain of the EUT radiating element (antenna)

TEST REPORT**4 Unwanted emissions****Test result:** Pass**4.1 Limit**

The radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified showed as below:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

4.2 Measurement Procedure**For Radiated emission below 30MHz:**

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) Both X and Y axes of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

- j) The EUT was placed on the top of a rotating table 0.01 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360

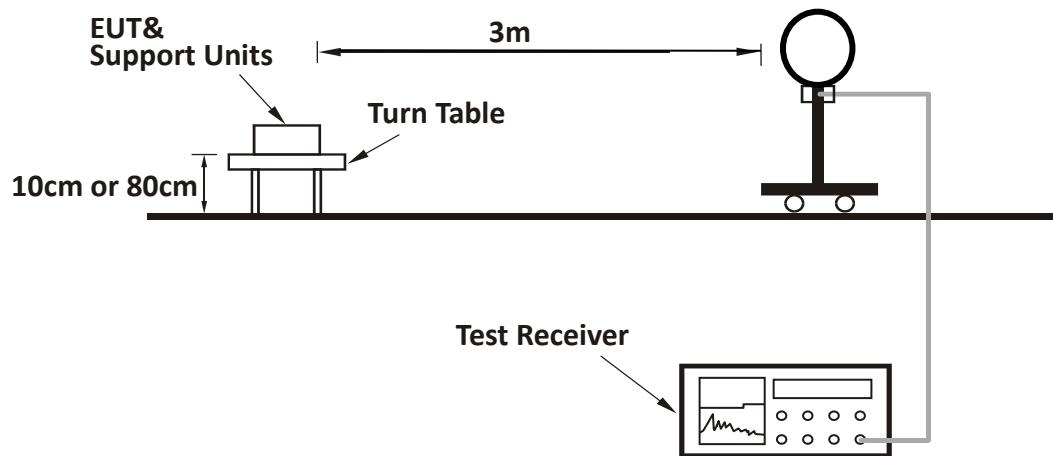
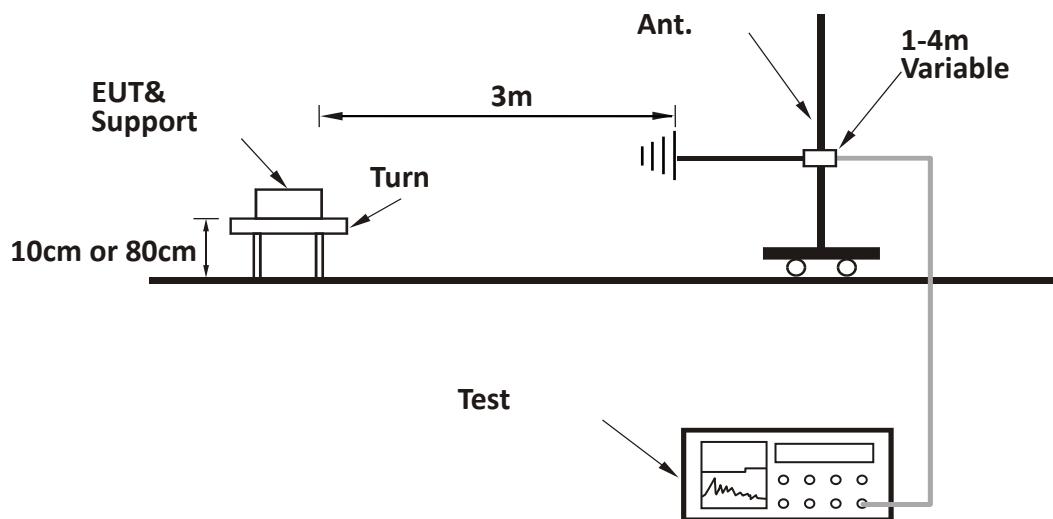
TEST REPORT

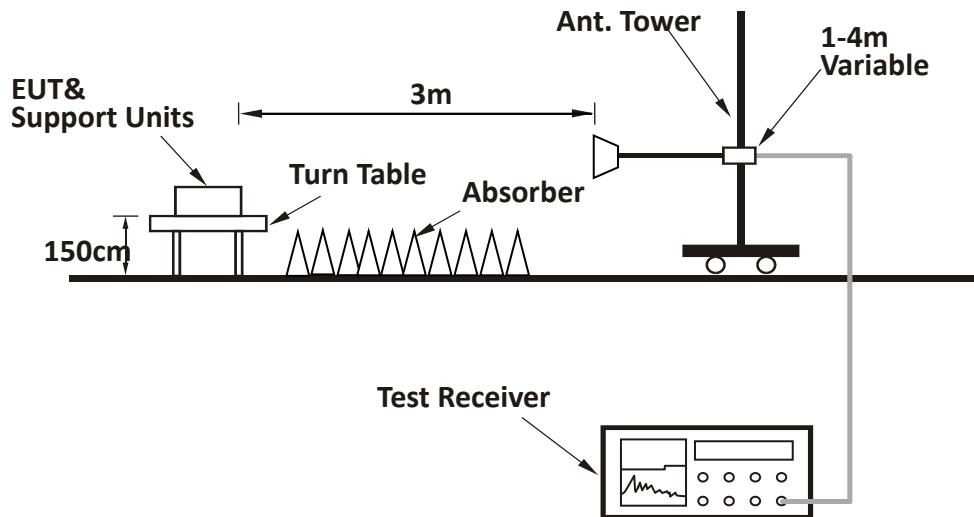
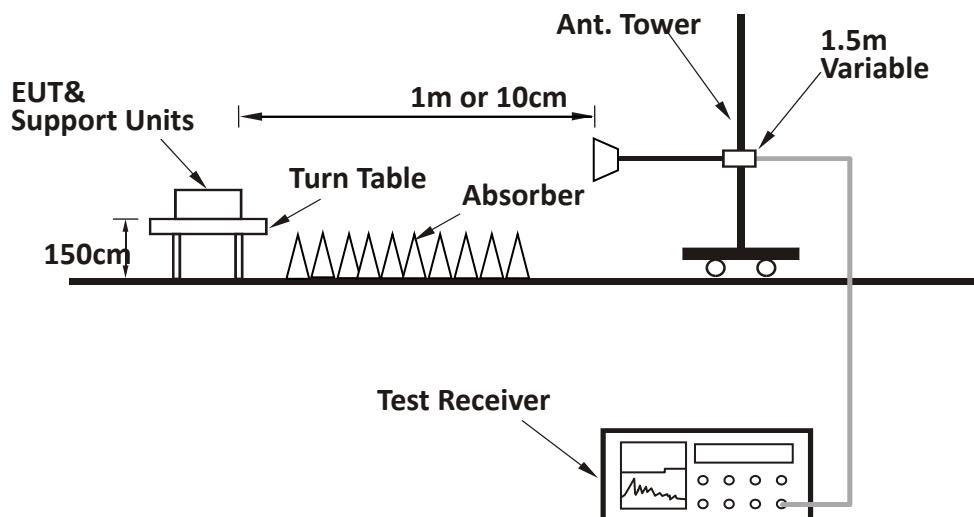
degrees to determine the position of the highest radiation.

- k) The EUT was set 3 or 1 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- l) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- m) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- n) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- o) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

- 4. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 5. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 6. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or $3 \times RBW$ (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
- 7. All modes of operation were investigated and the worst-case emissions are reported

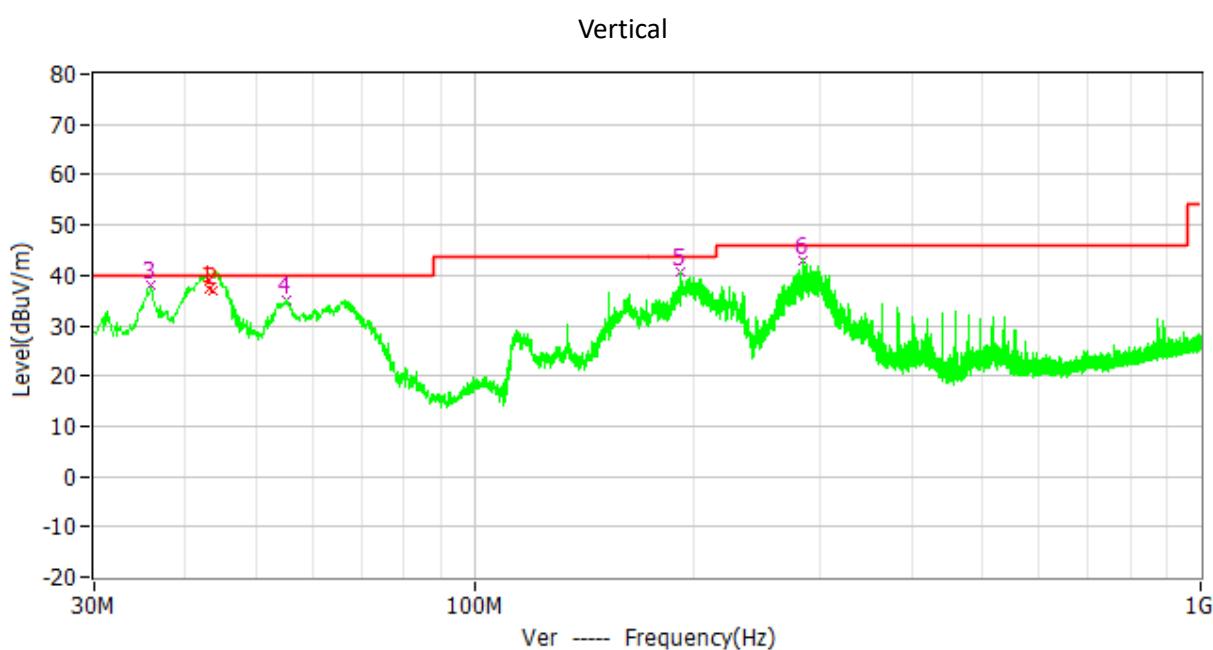
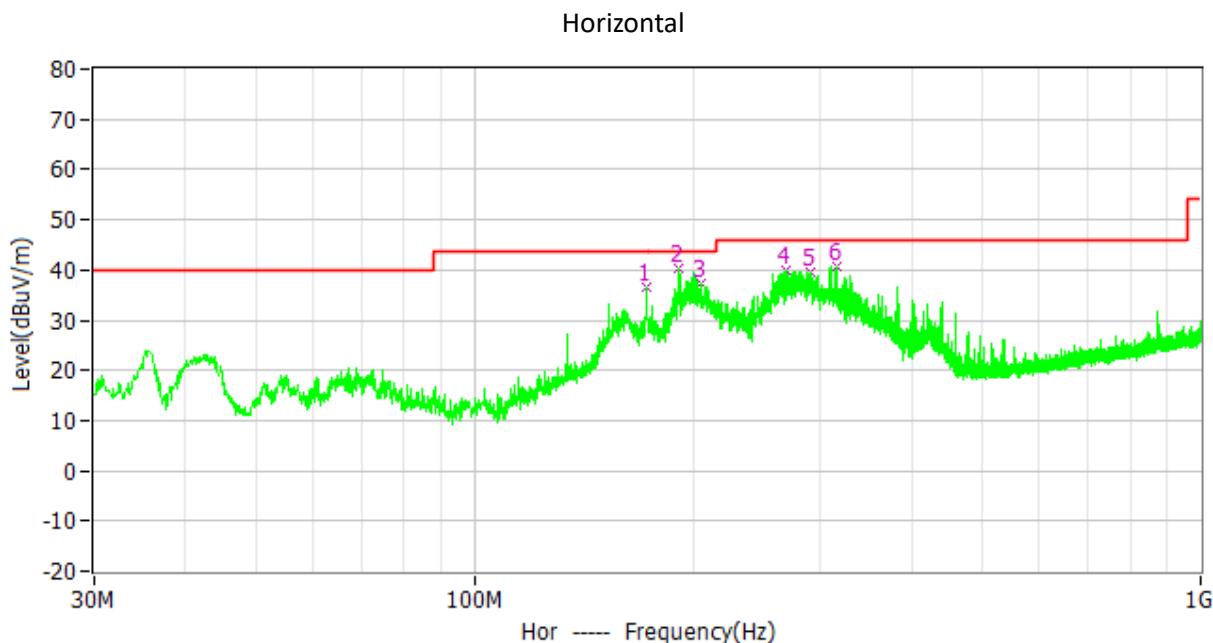
TEST REPORT**4.3 Test Configuration****For Radiated emission below 30MHz:****For Radiated emission 30MHz to 1GHz:**

TEST REPORT**For Radiated emission 1GHz to 40GHz:****For Radiated emission above 40GHz:**

TEST REPORT**4.4 Test Results of Radiated Emissions**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

The worst waveform from 30MHz to 1000MHz is listed as below:



TEST REPORT
Test data below 1GHz

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	172.590	36.4	13.6	43.5	7.1	QP
H	191.699	40.2	12.1	43.5	3.3	QP
H	205.182	37.2	11.5	43.5	6.3	QP
H	269.396	40.1	14.0	46.0	5.9	QP
H	290.542	39.7	14.8	46.0	6.3	QP
H	316.053	40.8	15.5	46.0	5.2	QP
V	43.131	37.4	14.0	40.0	2.6	QP
V	43.701	37.1	14.1	40.0	2.9	QP
V	35.917	37.9	13.1	40.0	2.1	QP
V	55.026	35.2	14.1	40.0	4.8	QP
V	191.796	40.6	12.1	43.5	2.9	QP
V	283.655	43.1	14.5	46.0	2.9	QP

The emission was conducted from 1GHz to 40GHz

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	8563	41.60	74.00	32.40	PK
H	8563	30.20	54.00	23.80	AV
H	17966	41.50	74.00	32.50	PK
H	17966	30.00	54.00	24.00	AV
H	25522	53.61	74.00	20.39	PK
H	25522	45.38	54.00	8.62	AV
H	38325	51.49	74.00	22.51	PK
H	38325	42.89	54.00	11.11	AV
V	7677	41.90	74.00	32.10	PK
V	7677	28.80	54.00	25.20	AV
V	17898	41.80	74.00	32.20	PK
V	17898	30.20	54.00	23.80	AV
V	23796	53.80	74.00	20.20	PK
V	23796	44.55	54.00	9.450	AV
V	39763	52.45	74.00	21.55	PK
V	39763	43.09	54.00	10.91	AV

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Remark: 1. Correct Factor = Antenna Factor + Cable Loss (- Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
 2. Corrected Reading = Original Receiver Reading + Correct Factor
 3. Margin = Limit - Corrected Reading
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
 Limit = 40.00dBuV/m.
 Then Correct Factor = $30.20 + 2.00 - 32.00 = 0.20$ dB/m;
 Corrected Reading = $10\text{dBuV} + 0.20\text{dB/m} = 10.20\text{dBuV/m}$;
 Margin = $40.00\text{dBuV/m} - 10.20\text{dBuV/m} = 29.80\text{dB}$.

The emission was conducted from 40GHz to 200GHz

Antenna	Frequency (GHz)	P (dBm)	G (dBi)	E (dB μ V/m)	d-Meas (m)	EIRP (dBm)	PD (pW/cm ²)	Limit (pW/cm ²)
H	40265	-63.67	22.76	82.926	1	-21.774	5.8824	90
H	71222	-59.09	23.58	91.640	1	-13.060	43.7451	90
H	122615	-67.31	22.91	88.808	1	-15.892	22.7923	90
H	193768	-56.21	22.85	103.943	0.1	-20.757	7.4347	90
V	40060	-63.86	22.76	82.692	1	-22.008	5.5734	90
V	71416	-63.08	23.58	87.673	1	-17.027	17.5506	90
V	122570	-67.47	22.91	88.645	1	-16.055	21.9517	90
V	193640	-56.98	22.85	103.167	0.1	-21.533	6.2186	90

Remark: 1. Correct Factor = Antenna Factor + Cable Loss + Mixer Conversion Loss, the value was added to Original Receiver Reading by the software automatically.

2. Sample calculation.

$$E = 126.8 - 20\log(\lambda) + P - G$$

where

E is the field strength of the emission at the measurement distance, in dB μ V/m

P is the power measured at the output of the test antenna, in dBm

λ is the wavelength of the emission under investigation [300/fMHz], in m

G is the gain of the test antenna, in dBi

$$EIRP = E_{Meas} + 20\log(d_{Meas}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dB μ V/m

d_{Meas} is the measurement distance, in m

$$PD = EIRP_{Linear} / 4\pi d^2 = 10^{(EIRP/10) * 10^9} / (4 * 3.14 * 300 * 300) = 10^{(EIRP/10) * 885}$$

where

PD is the power density at the distance specified by the limit, in pW/cm²

$EIRP_{Linear}$ is the equivalent isotropically radiated power, in pW

d is the 300cm

TEST REPORT**5 Frequency stability****Test result:** Pass**5.1 Limit**

Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range -20 to + 50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

5.2 Test Result

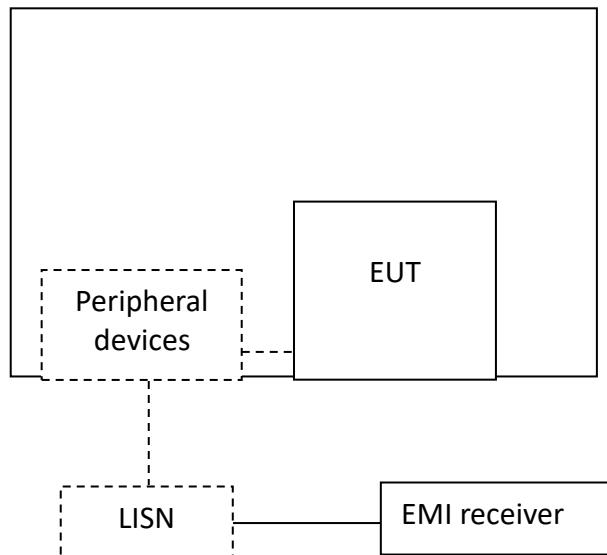
VOLTAGE (%)	POWER (V AC)	TEMP (°C)	Tested Frequency: 59.15 GHz	
			Measured low frequency(FL) (GHz)	Measured High frequency(FH) (GHz)
100%	120	-20	57.280	61.010
100%		-10	57.286	61.016
100%		0	57.284	61.011
100%		+10	57.275	61.013
100%		+20	57.272	61.011
100%		+30	57.276	61.015
100%		+40	57.273	61.014
100%		+50	57.282	61.012
115%	138	+20	57.271	61.012
85%	102	+20	57.272	61.011

Note: Fundamental emissions were contained within the frequency bands

TEST REPORT**6 Power line conducted emission****Test result:** Pass**6.1 Limit**

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

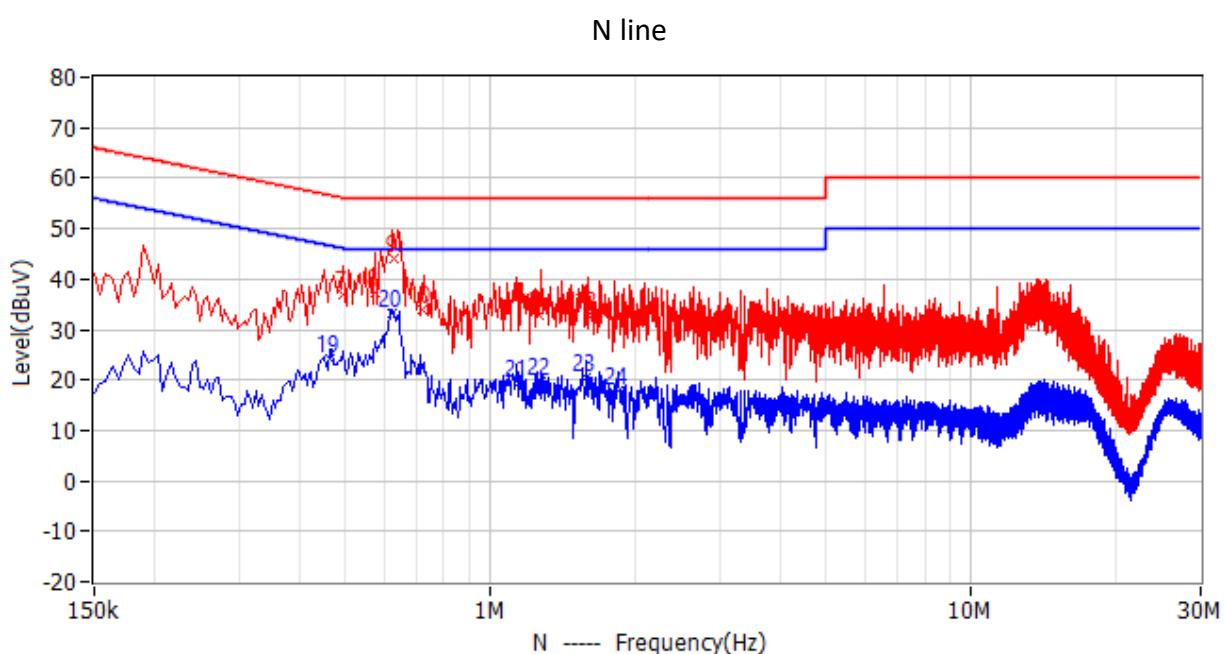
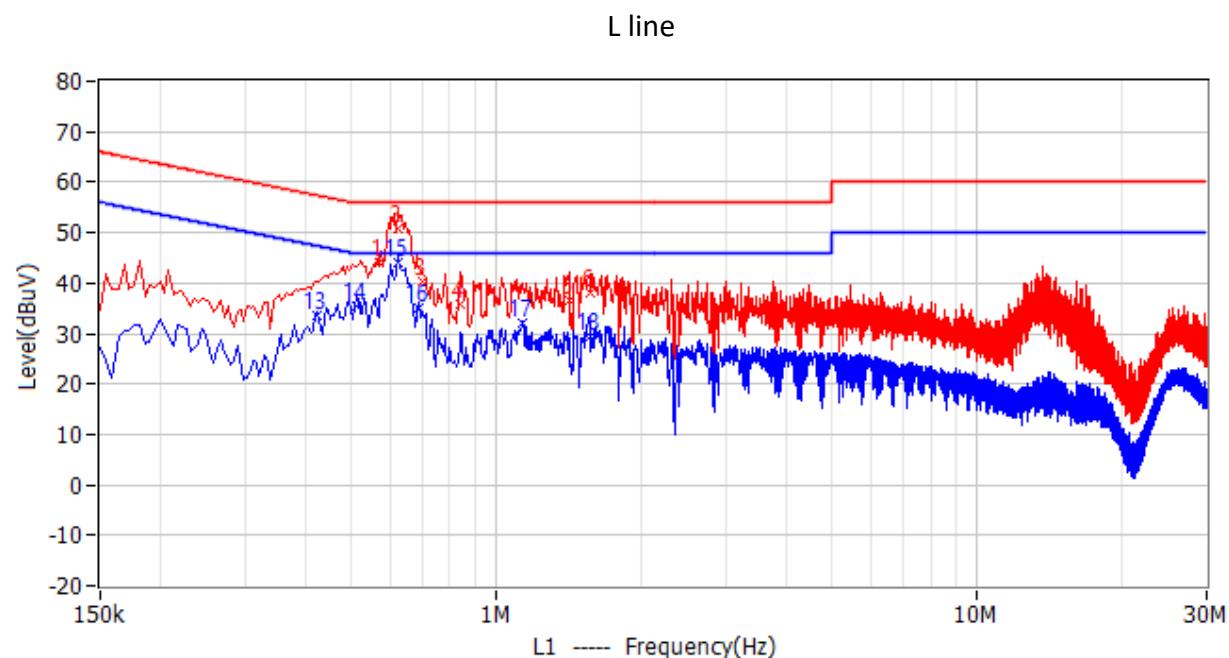
6.2 Test Configuration

TEST REPORT**6.3 Measurement Procedure**

Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

TEST REPORT**6.4 Test Results of Power line conducted emission**

TEST REPORT
Test Data:

No.	Frequency	Limit dBuV	Level dBuV	Margin dB	Reading dBuV	Factor dB	Detector	Phase
1	573.000kHz	56.0	44.2	11.8	37.9	6.3	QP	L1
2	622.500kHz	56.0	50.8	5.2	44.5	6.3	QP	L1
3	699.000kHz	56.0	40.4	15.6	34.1	6.3	QP	L1
4	843.000kHz	56.0	35.7	20.3	29.4	6.3	QP	L1
5	1.415MHz	56.0	36.5	19.5	30.2	6.3	QP	L1
6	1.572MHz	56.0	38.1	17.9	31.8	6.3	QP	L1
7	492.000kHz	56.1	36.9	19.2	30.7	6.2	QP	N
8	577.500kHz	56.0	37.4	18.6	31.2	6.2	QP	N
9	631.500kHz	56.0	44.1	11.9	37.9	6.2	QP	N
10	721.500kHz	56.0	33.9	22.1	27.6	6.3	QP	N
11	1.262MHz	56.0	32.9	23.1	26.6	6.3	QP	N
12	1.604MHz	56.0	32.7	23.3	26.4	6.3	QP	N
13	424.500kHz	47.4	33.5	13.8	27.2	6.3	AV	L1
14	510.000kHz	46.0	35.6	10.4	29.4	6.2	AV	L1
15	627.000kHz	46.0	44.2	1.8	37.9	6.3	AV	L1
16	690.000kHz	46.0	35.1	10.9	28.8	6.3	AV	L1
17	1.136MHz	46.0	31.9	14.1	25.5	6.4	AV	L1
18	1.572MHz	46.0	29.5	16.5	23.2	6.3	AV	L1
19	465.000kHz	46.6	24.3	22.3	18.1	6.2	AV	N
20	622.500kHz	46.0	33.1	12.9	26.9	6.2	AV	N
21	1.145MHz	46.0	19.2	26.8	12.9	6.3	AV	N
22	1.271MHz	46.0	19.6	26.4	13.3	6.3	AV	N
23	1.581MHz	46.0	20.3	25.7	14.0	6.3	AV	N
24	1.851MHz	46.0	18.0	28.0	11.7	6.3	AV	N

Remark:

1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.
2. Level = Reading + Factor
3. Margin = Limit - Level
4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

TEST REPORT**7 Assigned bandwidth (20dB bandwidth)**

Test result: Pass

7.1 Limit

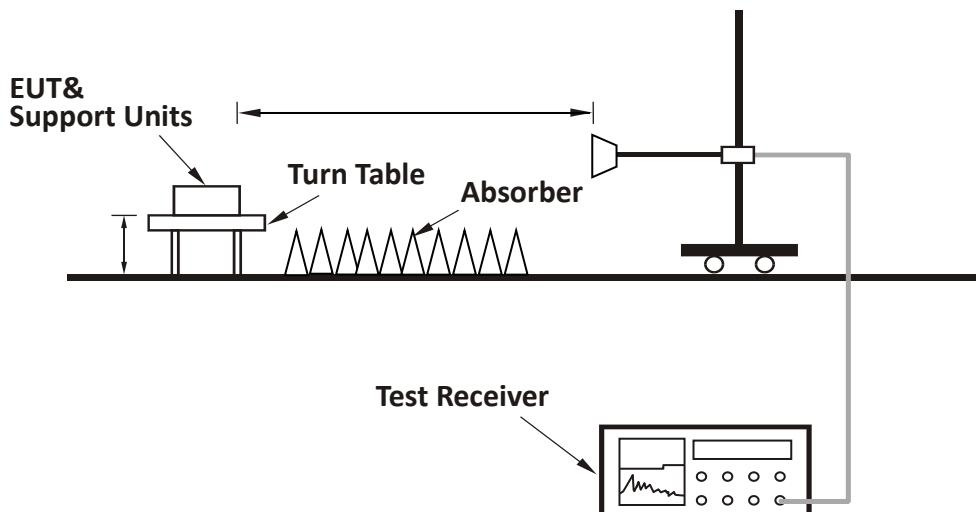
Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emission is contained within the allocated frequency band.

7.2 Measurement Procedure

The 20dB Bandwidth is measured using the Spectrum Analyzer.

Set Span = 2 to 3 times the 20 dB bandwidth, RBW = approximately 1% to 5% of the actual occupied, VBW>3xRBW, Sweep = auto, Detector = peak, Trace = max hold.

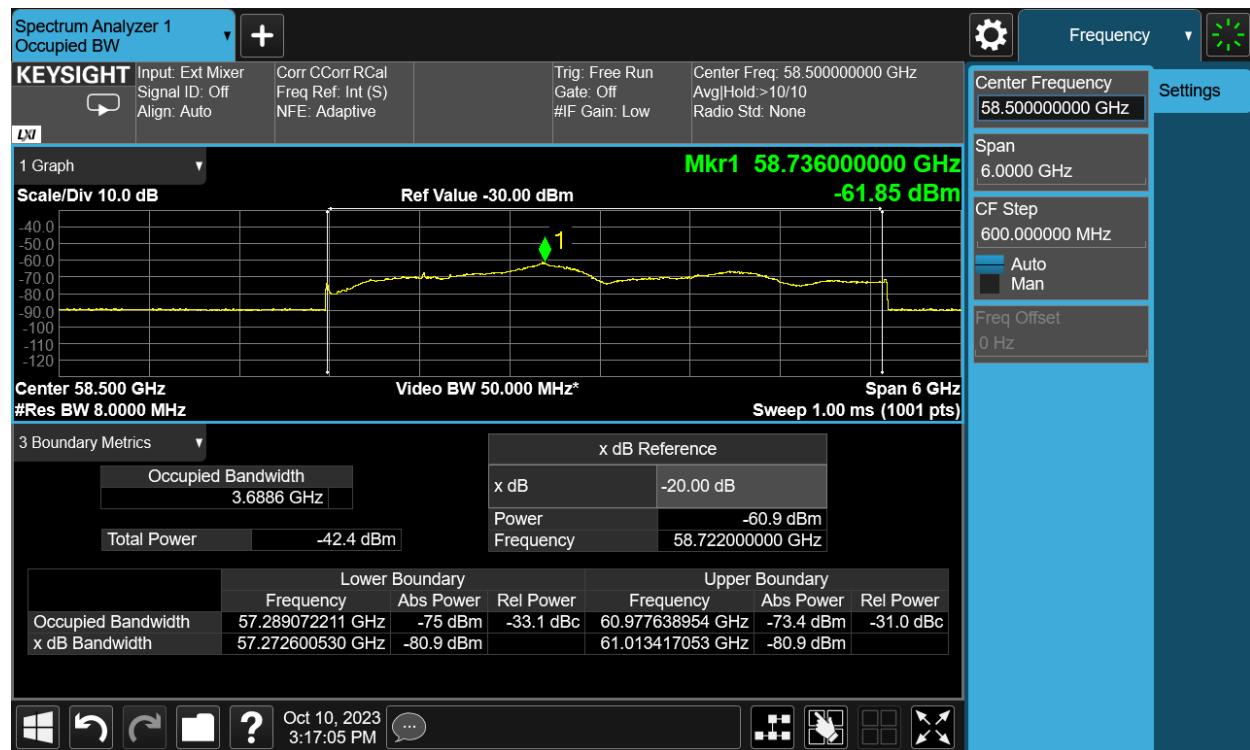
The test was performed at one channel.

7.3 Test Configuration

TEST REPORT

7.4 The results

Frequency band (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)	F _L at 20dB BW (MHz)	F _H at 20dB BW (MHz)
57000 ~ 71000	57272.60	57289.07	>57000	/
	61013.42	60977.64	/	<71000
Limit	N/A	N/A	F _L >57000	F _H <71000
Result	Complied			



TEST REPORT

8 Antenna requirement

Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Result:

EUT uses permanently attached antenna to the intentional radiator, so it can comply with the provisions of this section.

***** END *****